

REMARKS

Claims 9-19 and 25-35 are pending in the application. The specification and claims 9 and 15 have been amended for consistency and to more particularly describe certain aspects of the invention. None of the amendments add new matter. Claims 25-35 have been added to further describe the invention. Claims 1-8 and 20-24 have been cancelled in view of the Restriction Requirement. Favorable reconsideration in light of the amendments, the new claims, and the remarks which follow is respectfully requested.

The Restriction Requirement

During a conversation between Examiner Ruggles and Applicants' representative Gregory Turocy on or about June 24, 2003, the claims were subjected to the following restriction requirement:

- Group I (claims 1-8),
- Group II (claims 9-19), and
- Group III (claims 20-24).

Affirmation of the provisional election to prosecute Group II (claims 9-19) is hereby made.

The Amendments

The independent claims have been amended to emphasize the losing adhesion feature of the light-degradable surface coupling agent, thereby further defining the term light-degradable. The new independent claims also recite the feature that the light-degradable surface coupling agent has a polar and non-polar surfaces. These additional descriptions make clear that the light-degradable surface coupling agent excludes from coverage resists, even though such exclusion was previously implied.

Objection to the Specification

The specification has been objected to for a lengthy Abstract and various

typographical errors. The Abstract and the specification have been amended, without adding new matter, to correct obvious errors and consistent with the Examiner's suggestions.

The specification at page 5 has been amended to correct typographical errors in the naming of chemical compounds, consistent with the amendment to claims 11 and 17. The specification at page 6 has been amended to correct another typographical error in the first paragraph. Support for this change exists in line 9 of page 6.

The Indefiniteness Rejection

Claims 11 and 17 have been rejected under 35 U.S.C. § 112, second paragraph, for the spelling of chemical compounds. A typographical error is corrected by deleting an offending term. Claims 11 and 17 are now clear and understandable to one skilled in the art.

The Obviousness Rejections

Claims 9, 10, 15, and 16 have been rejected under 35 U.S.C. § 103 over Krounbi et al (U.S. Patent 5,604,073). Krounbi et al relates to forming patterned structures using a bilayer lift-off technique. The technique involves forming a release layer over a substrate, forming a resist over the release layer, patterning the resist, patterning the release layer, depositing a metal in the openings of the patterned resist/release layer, and lifting off the patterned resist/release layer and any metal thereon. The release layer contains polydimethylglutarimide (PMGI). The Examiner contends that the release layer of PMGI is equivalent to the light-degradable surface coupling agent of the light-degradable surface coupling agent of the claims. Applicants respectfully disagree.

The PMGI layer of Krounbi et al is NOT a surface coupling agent layer, it is a resist layer. PMGI resists are used commonly in the bilayer lift-off technique described by Krounbi et al. PMGI undergoes a chemical reaction under DUV light that makes it more soluble in an alkaline developer. The PMGI layer is not light degradable, otherwise the flood exposure step required by Krounbi et al would destabilize the

overlying patterned novolac resist layer, as the adhesion between the patterned novolac resist layer and the underlying substrate would be lost. In general, this means that the PMGI layer of Krounbi et al is NOT interchangeable with the light-degradable surface coupling agent of the claims.

The independent claims require irradiating PORTIONS of resist, so that those PORTIONS of the resist undergo a chemical reaction making them more soluble in a developer, and at the same time, the underlying PORTION of the light-degradable surface coupling agent breaks down, losing its adhesive properties, thereby facilitating the patterning of the resist. A blanket exposure of light, as taught by Krounbi et al, of the entire substrate would frustrate the purpose of using a light-degradable surface coupling agent. More specifically, an advantage of the present invention, owing to the fact that a light-degradable surface coupling agent is used, is that improved adhesion with an underlying substrate is selectively reversed only in locations where one desires to remove portions of the photoresist. Krounbi et al fails to teach or suggest these aspects of the claimed method.

Furthermore, the amendments serve to further distinguish the light-degradable surface coupling agent of the claims from the PMGI layer of Krounbi et al. In this connection, the PMGI layer of Krounbi et al does not lose adhesion properties when it is exposed to light. Exposing the PMGI layer of Krounbi et al to light makes that portion of the PMGI layer more soluble in an alkaline developer.

Claims 12-14 and 19 have been rejected under 35 U.S.C. § 103 over Krounbi et al in view of Guillet (U.S. Patent 3,811,931). Claims 11 and 17 have been rejected under 35 U.S.C. § 103 over Krounbi et al in view of Guillet and further in view of Bonsignore et al (U.S. Patent 5,563,238). Claim 18 have been rejected under 35 U.S.C. § 103 over Krounbi et al in view of Guillet and further in view of Henry (U.S. Patent 3,676,401). Guillet, Bonsignore et al, and Henry disclose various chemicals. However, none of these chemicals would function in the same way the PMGI layer of Krounbi et al functions. Therefore, one skilled in the art would not have made the

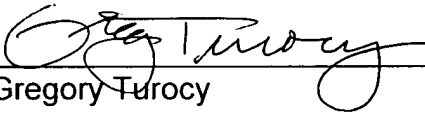
substitutions. Moreover, if one did make the substitutions, the bilayer lift-off technique of Kroundbi et al would be thwarted as the patterned novolac resist would fall off of the substrate due to the flood exposure.

Should the Examiner believe that a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

In the event any fees are due in connection with the filing of this document, the Commissioner is authorized to charge those fees to our Deposit Account No. 50-1063.

Respectfully submitted,

AMIN & TUROCY, LLP



Gregory Turocy
Reg. No. 36,952

24th Floor, National City Center
1900 East 9th Street
Cleveland, Ohio 44114
(216) 696-8730
Fax (216) 696-8731